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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,984	01/23/2004	Sang-Ho Kim	5000-1-531	8230

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EXAMINER

PETERSON, CHRISTOPHER K

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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10/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,984

Applicant(s)

KIM ET AL.

Examiner

Christopher K. Peterson

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's arguments, see pages 7 - 10, filed 7/27/2007, with respect to the rejection(s) of claim(s) 1 - 7 under Kinsman (US Patent Pub. # 2004/0056365) in view of Ikeda (US Patent Pub. # 2004/0212719) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Seo (US Patent Pub. # 2004/0041938) in view of Shinomiya (US Patent Pub. # 2002/0080266). The objection to the drawings and specification are also withdrawn, per applicant's changes (Page2).

Claim Rejections - 35 USC § 103

1. Claims 1 and 3 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo (US Patent Pub. # 2004/0041938) in view of Shinomiya (US Patent Pub. # 2002/0080266).

As to claim 1, Seo (Fig. 3) teaches

- a circuit board section (transparent plate 100) including a transparent material and having an upper surface onto which a circuit pattern (12) and an infrared ray filter are simultaneously bonded (Para 39 - 41). The transparent plate of Seo is made of a plastic material with IR-filter characteristics (Para39). Thus the IR filter and circuit pattern would be simultaneously bonded.

- an image sensor chip (10) bonded to a lower surface of the circuit board section using a flip chip bonding technique (Para 43);

Seo does not teach a lens holder or a lens assembly. Shinomiya teaches:

- a lens holder (optical system casing 13) bonded to the upper surface of the circuit board section using an epoxy bonding process (Para 4); and
- a lens assembly (optical lens) bonded to an upper surface of the lens holder using the epoxy bonding process (Para 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a lens holder and lens as taught by Shinomiya to the camera module of Seo, because this would make it easier to make and reduce the cost. (Para 62 of Shinomiya).

As to claim 4, claim 4 differ from claim 1 only in that claim 4 cites a "terminal", whereas claim 1 cites an "image sensor module". Seo teaches a small size camera module (camera modules) incorporated into a mobile phone (terminal) (Para 4).

As to claim 6, this claim differs from claim 1 only in that claim 1 is an apparatus claim whereas claim 6 is a method. Thus method claim 6 is analyzed as previously discussed with respect to claim 1 above

As to claim 3, Shinomiya teaches transparent material includes CU PET or CU PI (Para 57).

As to claim 5, Seo teaches the terminal is a video camera, an electronic still camera, a PC camera terminal, or a PDA (Para 46).

As to claim 7, Seo teaches a bonding part including transparent material (100) is formed on the circuit board section in order to bond the circuit pattern (12) and the infrared ray filter to the circuit section (Para 39 - 41). The transparent plate of Seo is made of a plastic material with IR-filter characteristics (Para39). Thus the IR filter and circuit pattern would be simultaneously bonded.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seo (US Patent Pub. # 2004/0041938) in view of Shinomiya (US Patent Pub. # 2002/0080266) as applied to claim 1 above, and further in view of Kinsman (US Patent Pub. # 2004/0056365).

As to claim 2, note the discussion above. Seo in view of Shinomiya do not teach a printed circuit board. Kinsman teaches a printed circuit board (rigid substrate 76) (Para51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a printed circuit board as taught by Kinsman to the camera module of Seo in view of Shinomiya, because image sensor packaging structure would be simple to fabricate, suitable for use with high I/O sensor devices, durable and easily mounted to a larger circuit assembly without the use of special substrate apertures or depressions.(Para 8 of Kinsman).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yang (US Patent Pub. # 2004/0056971) cites thin type camera module.

Kastner (US Patent # 6896938) cites metallized film, method for the production thereof, and use thereof

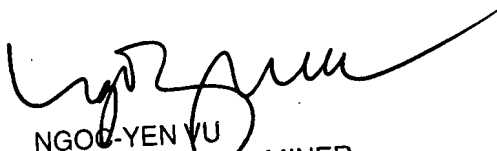
Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Peterson whose telephone number is 571-270-1704. The examiner can normally be reached on Monday - Friday 6:30 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CKP
26 September 2007


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER